ПAMIBIA UПIVERSITY
OF SCIEПCE AПD TECHПOLOGY

FACULTY OF NATURAL RESOURCES AND SPATIAL SCIENCES

DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES SCIENCES

QUALIFICATION: BACHELOR OF AGRICULTURE	
QUALIFICATION CODE: 07BAGR	**LEVEL:** 6
COURSE CODE: RME620S	**COURSE NAME:** BASIC RESEARCH METHODOLOGY
SESSION: NOVEMBER 2019	**PAPER:** THEORY
DURATION: 3 HOURS	**MARKS:** 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER(S):	MR BRIAN J. MHANGO
MODERATOR:	DR TENDAI NZUMA

INSTRUCTIONS
1. Marks for each question are indicated
2. Provide your name and student number on the answer booklets
3. Answer each question on a separate answer sheet
4. Write clearly and neatly.
5. Number the answers clearly.

PERMISSIBLE MATERIALS

1. All written work MUST be done in blue or black ink
2. No books, notes and other additional aids are allowed
3. You are allowed to use a scientific calculator in the examination

THIS QUESTION PAPER CONSISTS OF 3 PAGES (Excluding this front page)

SECTION A: ANSWER ALL THE QUESTIONS IN THIS SECTION   [50 MARKS]

QUESTION 1

a)   List five most important words in statistics that a researcher must know   (5)
b)   With reference to research define the following terms:

    i.   Validity   (5)
    ii.   Reliability   (5)

                                                                                             [15]

QUESTION 2

Construct a frequency distribution table (in ascending order) from the following data set:
7, 4, 18, 4, 9, 18,8, 8, 7, 6, 2, 15, 9, 5, 9, 12, 4, 14, 15, 18,7,14, 10, 2, 3,14, 11, 4, 4, 9, 12, 5, 3,1,1.

                                                                                             [15]

QUESTION 3

A small agriculture consulting company in Windhoek pays daily subsistence allowance to each of its five agriculture extension workers N$2,000, two agronomists N$5,000 each, and the CEO (owner) N$7,000.

    a)   Determine the number of employees earning less than the average (mean or Q2) daily subsistence allowance

                                                                                             (10)

    b)   Sketch or draw a pie chart showing the number of employees according to job descriptions in the company.   (4)

    c)   Sketch or draw a bar graph showing the earnings of each employee in this company.   (6)

                                                                                             [20]

SECTION B: ANSWER TWO QUESTIONS IN THIS SECTION   [50 MARKS]

QUESTION 4

Discuss how you would arrive at the choice of a quantitative research method and highlight your main concerns before carrying-out the research activity.   **(25)**

QUESTION 5

The table below is air temperature recorded at one of the Namibian weather stations.

Air Temperature (⁰C) January-August 2019							
25.4	16.6	36.2	30.5	24.6	15	36.1	29.1
24.6	15	36.1	29.1	26.9	16.9	37.4	32.8
26.9	16.9	37.4	32.8	24.3	15	35.6	29.1
24.3	15	35.6	29.1	21.4	7.3	33.3	26.8
21.4	7.3	33.3	26.8	18.3	5	31.8	23.7
18.3	5	31.8	23.7	18.6	4.1	31.3	23.4
18.6	4.1	31.3	23.4	23.4	7.1	34.8	26.4
23.4	7.1	34.8	26.4	15	7.3	5	4.1
25.4	16.6	36.2	30.5	24.6	0	0	0
21.4	7.3	33.3	26.8	15	0	0	0

Based on the data in the table:

a) Determine the number of classes and the class width of the data   (4)
b) Present a grouped frequency distribution table showing: classes, class mid-points, class frequency, cumulative frequency and % relative frequency.   (16)
c) Construct a box-whisker plot of the temperature data.   (5)

                                                                                                        [25]

QUESTION 6

Discuss the role and importance of literature review in research.   **(25)**

STATISTICS FORMULAS

$$\bar{x} = \frac{\sum_{i=1}^{n} x_i}{n} \qquad s^2 = \frac{\sum_{i=1}^{n} (x_i - \bar{x})^2}{n-1} \qquad i = \left(\frac{p}{100}\right)n$$

$$S_{xy} = \frac{1}{N-1}\sum_{i=1}^{N}\left(X_i - \bar{X}\right)\left(Y_i - \bar{Y}\right)$$